

REMARKS

Claims 1-16 are pending. With the addition of claims 17-22 above, claims 1-22 are pending.

Page 1 of the specification has been amended to add a disclosure of a joint research agreement pertaining to the claimed invention.

Paragraphs 0019, 0020, 0073, 0077 and 0079-0085 have been amended by replacing “a molecular weight” with “an atomic weight” as required by the Examiner.

The replacement of “a molecular weight” with “an atomic weight” in claims 4-8 is for correcting an error apparent to a person skilled in the art. The replacement would not narrow the scope of the amended claim recitation because a person skilled in the art would have recognized that the applicants intend “a transition metal having a molecular weight” to mean “a transition metal having an atomic weight” because M is not a compound. Descriptive support for the replacement can be found in paragraph 0075 of the specification.

Claim 6 is amended by deleting the recitation “ring A is an aromatic heterocyclic ring or a fused aromatic heterocyclic ring with at least one nitrogen atom that coordinates to the metal M” for editorial purposes. The deletion would not narrow the scope of claim 6.

Claim 7 is amended by inserting “Z is selected from carbon or nitrogen”, which is taken from claim 5. Since the original claim 7 depends on the original claim 5, one skilled in the art would have understood the original claim 7 to incorporate the limitations of the original claim 5 unless otherwise further limited by the recitations in the original claim 7. There is no narrowing of claim 7 by inserting “Z is selected from carbon or nitrogen”.

Descriptive support for the amendment to claim 1 can be found in paragraph 0057 in page 15 of the specification, the last sentence of paragraph 0093 in page 32 and the second to the last sentence in paragraph 0067 in page 19.

Descriptive support for the amendment to claim 5 can be found in the original claim 5.

Descriptive support for new claim 17 can be found in paragraph 0057 in page 15 and second to the last sentence in paragraph 0067 in page 19.

Descriptive support for claims 18-21 can be found in paragraph 0075 of the specification. Further descriptive support for claim 20 can be found in claim 5 as filed; paragraph 0030 in page 10 and Fig. 7 of the specification.

Descriptive support for claim 22 can be found in Fig. 8 and paragraph 0031 of the specification.

Objection to the Specification

The specification was objected to for referring to the “molecular weight” of a transition metal M. Corrections are made in the appropriate paragraphs of the specification. Withdrawal of the objection is requested.

Claim Rejections – 35 U.S.C. §112

Claims 4-11 were rejected as indefinite for reciting “M is a transition metal having a molecular weight”. The term “molecular weight” is replaced with “atomic weight”, which is consistent with the Examiner interpretation that the phrase specifies the atomic weight of M.

Applicants respectfully traverse the indefiniteness rejection of claim 6 for the recitation of ring A. Even though ring A is not specifically shown in the formula in claim 6, one skilled in the art would have understood that the recitation “ring A is an aromatic heterocyclic ring or a fused aromatic heterocyclic ring with at least one nitrogen atom that coordinates to the metal M” was a carry over from the base claim, i.e., claim 5. The recitation regarding ring A is now deleted from claim 6 to advance prosecution.

Applicants respectfully traverse the indefiniteness rejection of claim 7 because a dependent claim incorporates all the limitations of the base claim unless further limited by the recitations in the dependent claim. One skilled in the art would have understood Z in the original claim 7 to have the same meaning as Z in the original claim 5. To advance prosecution, the recitation regarding Z is inserted into claim 7.

Withdrawal of the rejections is requested.

Claim Rejections – 35 U.S.C. §102

Applicants respectfully traverse the anticipatory rejections of claims 1, 2 and 4-12 over Lamansky et al. (WO 02/15645; hereinafter ‘Lamansky I’) under 35 U.S.C. 102(b), or over Lamansky et al. (US 6,939,624; hereinafter ‘Lamansky II’) under 35 U.S.C. 102(e). Lamansky I and Lamansky II essentially have the same disclosure. Without acquiescence to whether Lamansky II is proper prior art under 35 U.S.C. 102(e), applicants will explain why Lamansky I or II does not disclose every limitation of claims 1, 2 and 4-12.

In the active region of the organic photosensitive optoelectronic devices of claims 1, 2 and 4-12, the donor layer and/or acceptor layer either consists of the cyclometallated organometallic material, or contains the cyclometallated organometallic material as a host doped with one or more other substances as dopant(s). When the donor layer and/or acceptor layer of the active region is doped, one skilled in the art would understand the “host” to mean that the cyclometallated organometallic material is greater than 50% of the substances in the doped donor layer and/or acceptor layer.

Lamansky I or II discloses organic light emitting devices (OLEDs) employing phosphorescent organometallic compounds, which can be cyclometallated (Lamansky I: page 7, lines 10-13, page 13, line 19 to page 14, line 20, page 15, lines 8-9; Lamansky II: column 4, lines 13-18, column 6, line 42 to column 7, line 8, column 7, line 23). Although Lamansky I or II does not explicitly state that the cyclometallated phosphorescent organometallic compound is used only as a dopant or guest compound in the active region of the OLEDs, all the specific embodiments of the OLEDs disclosed in Lamansky I or II have the active region comprising the cyclometallated phosphorescent organometallic compound as a dopant or guest compound (Lamansky I: page 9, lines 10, 14 and 15, page 33, lines 1-3, page 34, lines 4-6, page 36, lines 8-10, page 37, lines 5-6 and 18-19, page 38, lines 8-9 and the last two lines, page 39, lines 9-10, page 40, lines 13, 18 and 19, page 42, lines 1-3, page 48, lines 11-18 wherein (4,5F₂ppy)Pt(acac) is a dopant, page 49, line 23, page 50, line 4, page 51, lines 13-14, page 54, lines 8-15, page 55, lines 4, 5, 12, 21 and 22, page 56, lines 1, 8 and 14, page 57, lines 1, 11, 15, 16, 21 and 22, page 58, lines 21, 25 and 26, page 60, lines 9-11 and 20, page 61, line 16, page 62, lines 19-22, page 63, lines 4, 8, 10, 19, 21 and 22, page 64, lines 12, 13, 19, 20 and 23, page 65, lines 2-14 and 16, page 66, lines 1 and 18, page 68, line 7, page 69, lines 6-22) (Lamansky II: column 4, lines 13-17 and 66-67, column 5, lines 1, 2, 5-8, 16, 17 and 20, column 6, lines 4-9 and 16, column 7, lines 23 and 33, column 12, lines 42-46, column 13, lines 10-13, column 14, lines 1-17, 42-44 and 61-63, column 15, lines 13-15, 34 and 47-50, column 16, lines 20-29 and 65-67, column 20, lines 22-30 and 53-55, column 21, lines 1-3, 8-10, 48-50 and 61, column 22, lines 37-46, column 23, lines 3-13, 30-36, 41, 44, 45 and 55-59, column 24, lines 9, 43-61, column 25, lines 19, 20, 25, 66 and 67, column 26, lines 19, 20, 30, 31 and 54, column 27, lines 20-23, 28, 35, 36, 39, 40, 43, 56, 57, 59 and 60, column 28, lines 11, 19, 20, 25, 30, 31, 34-36, 38, 42, 46, 50 and 60, column 29, lines 13 and 54, and column 30, lines 16-37). Thus, Lamansky I or Lamansky II does not

disclose each and every limitation of the instant claims. Withdrawal of the anticipatory rejections over Lamansky I or Lamansky II is requested.

Claim Rejections – 35 U.S.C. §103

I. Applicants respectfully traverse the obviousness rejection of claims 1-3, 5-9 and 13-15 over Knowles et al. (U.S. Patent Application Publication No. 2005/0164030). Knowles et al. was relied upon by the Examiner as a reference qualified under 35 U.S.C. 102(e).

However, the work described in Knowles et al. was made by, or on behalf of, and/or in connection with one or more of the following parties to a joint university corporation research agreement: Princeton University, The University of Southern California and the Universal Display Corporation, which is the same joint university corporation research agreement under which the claimed invention was made. As a result, Knowles et al. is not prior art against the claimed invention under 35 U.S.C. 103(c). Withdrawal of the obviousness rejections is requested.

II. Applicants respectfully traverse the obviousness rejection of claim 16 over Knowles et al. as applied to claim 1 and further in view of Okada et al. (U.S. Patent No. 7,189,917). Since Knowles et al. is not proper prior art under 35 U.S.C. 103(c), claim 16 would not have been obvious over Knowles et al. in view of Okada et al.

III. Applicants respectfully traverse the obviousness rejections of claims 1-3, 5-9 and 13-15 over Thompson et al. (U.S. Patent No. 7,011,897). Thompson et al. was relied upon by the Examiner as a reference qualified under 35 U.S.C. 102(e). However, the work described in Thompson et al. was made by, or on behalf of, and/or in connection with one or more of the following parties to a joint university corporation research agreement: Princeton University, The University of Southern California and the Universal Display Corporation, which is the same joint university corporation research agreement under which the claimed invention was made. As a result, Thompson et al. is not prior art against the claimed invention under 35 U.S.C. 103(c). Withdrawal of the obviousness rejections is requested.

IV. Applicants respectfully traverse the obviousness rejection of claim 16 over Thompson et al. as applied to claim 1 and further in view of Okada et al. (U.S. Patent No. 7,189,917).

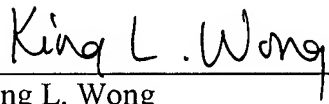
Since Thompson et al. is not proper prior art under 35 U.S.C. 103(c), claim 16 would not have been obvious over Thompson et al. in view of Okada et al. Withdrawal of the obviousness rejection is requested.

In the event that the filing of this paper is deemed not timely, applicants petition for an appropriate extension of time. The Commissioner is authorized to charge Deposit Account No. 11-0600 for the extension of time fee and any additional fees that may be required in relation to this paper.

Respectfully submitted,

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